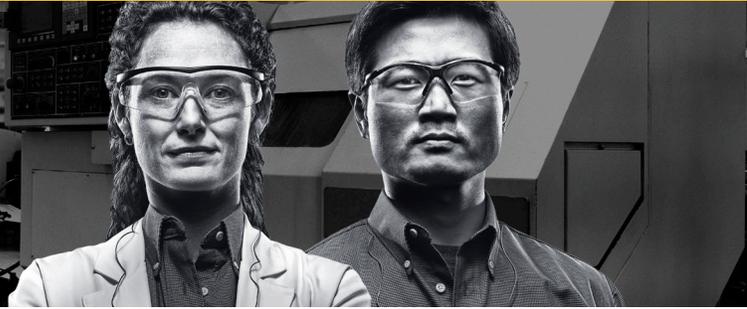


CASE STUDY



36% CONCENTRATION REDUCTION MACHINING CAST ALUMINUM PARTS QUAKERCOOL® 7450

CHALLENGES

A North American Tier 2 die caster supplying the automotive, appliance and industrial manufacturing industry was looking to replace their machining coolant. The die caster was looking to lower overall costs but also required the following:

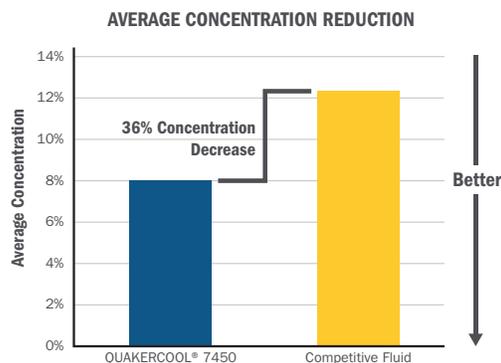
- » One metal removal fluid for multiple operations
- » Reduced concentration
- » No dermatitis issues

THE SOLUTION

The customer was looking for one coolant to satisfy the milling, drilling, and roll tapping of aluminum parts while maintaining a high surface finish. The competitive coolant was being used at a high concentration for the critical roll tapping operation because as the concentration decreased, the threads would begin to tear. Quaker Chemical reviewed the customer's concerns and introduced QUAKERCOOL® 7450, a high performance microemulsion. Chosen because for its superior aluminum tapping performance, QUAKERCOOL® 7450 is also myco-bacteria resistant and free of boron and formaldehyde. The customer had previously received positive reviews on this product from a sister plant, and was very happy with their results:

- » **Annual cost savings of 15%**
- » **Average concentration reduction of 36%**
- » Long sump life
- » No odor or dermatitis
- » One fluid for multiple operations

QUAKERCOOL® 7450 has been widely accepted and is now used in all 4 of the customers plants.



THE PRODUCT

QUAKERCOOL® 7450 is a high-performance, formaldehyde and boron free microemulsion ideally suited to all operations on aluminum and ferrous alloys demanding premium surface finish quality and consistent lubrication. QUAKERCOOL® 7450 is myco bacteria resistant and contains enhanced bio-resistance to extend sump life and minimize strong odors.

THE EXPERTISE

Metalworking lubricants represent a very minor part of the costs in a metalworking process, typically less than 1%. This case illustrates the importance of correct fluid selection. The impact of the fluid can be a multiple of its costs, making the price of a metalworking fluid insignificant. That is why Quaker focuses on developing fluids with the highest performance without compromise, fluids that sharpen your competitive edge.

PROCESS AND EQUIPMENT

| | |
|----------------|--|
| Part | V6 Engine cover, oil pans, washing machine agitators |
| Material | 380 Aluminum |
| Water Hardness | 180 ppm |
| Concentration | QUAKERCOOL® 7450: 7-9% Competitive Fluid: 12-13% |
| Operation | Milling, drilling, roll tapping |
| Sump | Standalone sumps |